



MultiPrep™ 12"
PRECISION POLISHING SYSTEM

*PRECISE SEMIAUTOMATIC
SAMPLE PREPARATION FOR A
WIDE RANGE OF MATERIALS*

The **MultiPrep™ System** is a programmable machine that enables precise semiautomatic sample preparation of a wide range of materials for microscopic (**optical, SEM, FIB, TEM, AFM, etc.**) evaluation.

Capabilities include parallel polishing, angle polishing, site-specific polishing or any combination thereof. It provides reproducible results by eliminating inconsistencies between users, regardless of their skill.

The 12" MultiPrep™ System has a scaled positioning device and higher torque rotation/oscillation motors for preparation of larger or multiple samples exceeding an area of 1,600 mm².

Dual micrometers (pitch and roll) allow precise sample tilt adjustments relative to the abrasive plane. A rigid Z-indexing spindle maintains the predefined geometric orientation throughout the grinding/polishing process. Digital measurement indicators enable quantifiable material removal, which can be monitored real-time (front), or be preset (rear) for unattended operation. Variable speed rotation and oscillation maximize use of the entire grinding/polishing disc and minimize artifacts. Adjustable load control expands its capability to handle a range of small (delicate) to large samples.

Precision/magnetic platens, accessories and consumables are sold separately.

Item	Description
15-2200-12	MultiPrep™ System, 12", 100-240 V
	Dims: 22" W x 28" D x 24" H (560 x 711 x 610 mm) Weight: 125 lb. (57 kg)

Grinder/Polisher Features:

- Variable platen speed: 5-350 RPM (5 RPM increments)
- 7" color LCD touchscreen with keypad entry to control all functions
- Intuitive interface optimized for productivity and function
- Seamless integration with optional #5-7100 AD-5™ Fluid Dispenser for fully automatic operation
- Powerful, quiet 0.7 HP (535 W) Brushless DC motor that provides constant high torque output throughout the speed range
- Stable RIM aluminum and stainless steel construction
- Timer for count-up or countdown operation
- Clockwise/counterlockwise platen rotation
- Electronic coolant control with adjustable valve
- Retractable coolant nozzle to allow quick and easy sample/bowl cleaning
- Emergency shut-off switch
- CE compliant for EU
- Two (2) year warranty
- Designed and manufactured by Allied in the USA 

Positioning Head



Shown with #15-1020-100 Parallel Polishing Fixture

Positioning Head Features:

- Larger scaled positioning device and higher torque rotation/oscillation motors for preparation of larger or multiple samples exceeding an area of 1,600 mm²
- Front digital indicator to display real-time material removal (sample advancement) with zeroing function, 1 µm resolution
- Precision spindle that indexes the sample perpendicular to the platen and can rotate simultaneously
- Dual axis, micrometer-controlled angular positioning of the sample (pitch and roll): +10° / -2.5° range (0.02° increments)
- Rear digital indicator to display vertical positioning (static) with zeroing function, 1 µm resolution
- Automatic sample oscillation, adjustable sweep with 8 speeds
- Full or limited automatic sample rotation with 8 speeds
- Cam-locking system that eliminates the need for tools and allows for precise repositioning of fixtures
- Variable sample load: 0-600 g (100 g increments)

Gear-Driven Sample Rotation

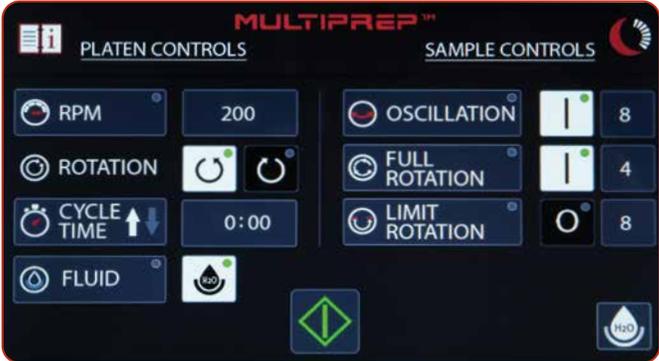


The gear-drive system allows preparation of larger, hard, tough or encapsulated materials. It delivers nonslip rotation for higher load-bearing applications.



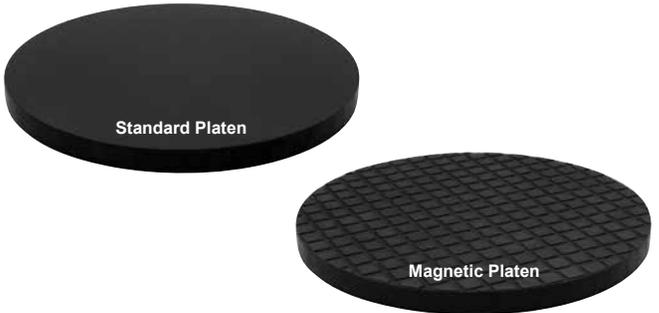
Shown with #15-1045 Multipurpose Fixture

LCD Touchscreen



The 7" color LCD touchscreen is used to control all functions and is extremely easy to navigate, allowing greater efficiency among users. The intuitive interface includes icons and is optimized for productivity and function.

Precision Platens

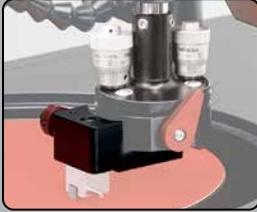


Precision platens are lapped parallel within 2 µm and hard anodized for maximum wear resistance. They are used with plain or adhesive back discs. Magnetic platens combine a precision platen with a cross-hatched magnetic surface for maximum flatness and adherence. This allows all magnetic system cloths/abrasive discs or ferromagnetic discs to be utilized.

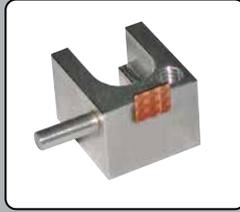
Item	Description
10-1010	Precision Platen, 12" (305 mm)
10-1010M	Precision Magnetic Platen, 12" (305 mm)

Accessories

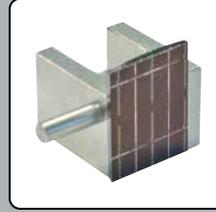
A wide variety of standard fixtures and accessories are available. The cam-locking interface offers tool-free attachment and removal for ease of use. Custom fixtures are available for various applications. Contact Allied for more information.



15-1005
Cam-Lock Adapter
for cross-sectioning/
thinning paddles



15-1010
Cross-Sectioning
Paddle



15-1010-RE
Cross-Sectioning
Paddle with
Reference Edge



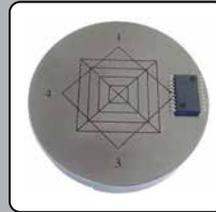
15-1013
TEM Wedge/FIB
Thinning Paddle



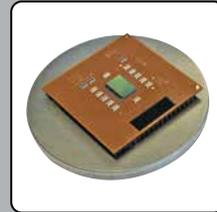
15-1014
TEM Wedge/FIB
Thinning Fixture



15-1018
Sample Thinning
Fixture



15-1020
Parallel Polishing
Fixture, 2.25" (57 mm)



**15-1020-80 or
15-1020-100**
Parallel Polishing
Fixture, 80 or 100 mm



15-1025
Teardrop Fixture,
40 mm Mount Capacity



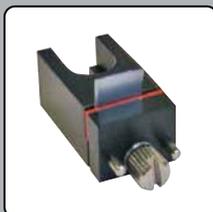
15-1035
Weight Kit



15-1045
Multipurpose Fixture,
2" Wide



15-1047
Multipurpose Fixture,
1" Wide



15-1050
Cross-Sectioning Paddle,
Clamp Style



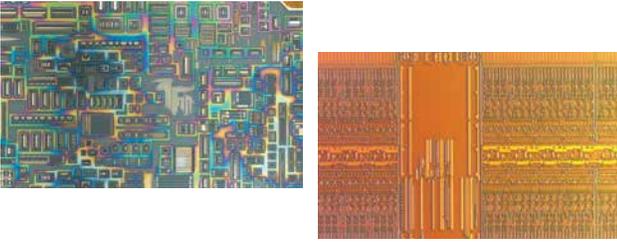
15-ACMPF
MultiPrep™ Assorted
Accessory/Fixture Set



120-30015
Digital Indicator
Measurement System

Common Applications

Circuit Delayering



Remove circuit layers for defect review and physical FA.

Precision Cross-Sectioning



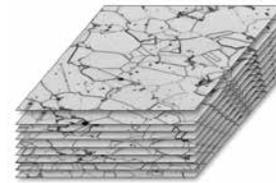
Prepare precise encapsulated or unencapsulated cross-sections of die or package level semiconductor devices, as well as a wide variety of other materials.

SIMS Thinning



Thin semiconductor or other substrates to less than 200 nm to enable backside SIMS analysis.

Serial Sectioning



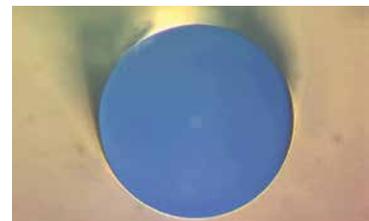
Prepare polished regions of 2D structures at specific intervals to allow 3D reconstruction of materials for analysis.

TEM Wedge Thinning



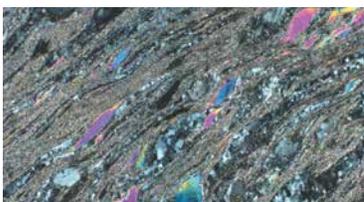
Prepare wedge specimens of bulk materials for TEM analysis.

Optics/Optical Device Polishing



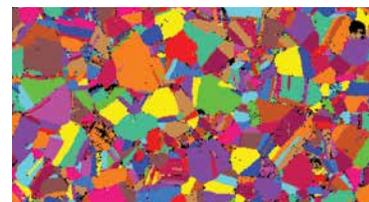
Polish a wide variety of optical components and bare fiber.

Thin Sectioning



Prepare thin sections for petrography/geology.

EBSD Preparation



Prepare artifact-free surfaces on a wide variety of materials for EBSD analysis.

AD-5™ Fluid Dispenser

The **AD-5™** fluid dispenser provides automatic, unattended application of abrasive polishing suspensions and lubricants. Its functions are controlled through Allied's MetPrep 3™, MetPrep 4™, DualPrep 3™ or MultiPrep™ Systems, and can also be used with **ANY** brand polishing machine as a standalone system.

Programming the dispensing time, length and frequency delivers reproducible results by eliminating inconsistencies between operators. This increases productivity and efficiency, while reducing consumables usage. Intuitive menu navigation and simple logic programming make the dispenser easy to use.

The AD-5™ features five (5) dispensing positions, two of which include a flush cycle to prevent clogging when using colloidal suspensions. Peristaltic pump technology offers mist-free drip delivery to the polishing surface.

Features:

- Five (5) dispensing positions, 16 oz. (500 mL) capacity 128 oz. (3.8 L) adapter kit available
- User-defined menu labeling (abrasive type & size, lubricant, cloth, material and menu name)
- Pump reverse after cycle to prevent dripping/contamination
- Remote function to enable seamless integration and automatic activation with Allied's grinding and polishing systems
- Local function to allow standalone operation with any grinder/polisher
- Pulse duration: 0.5-6 seconds (0.5 second increments)
- Pulse frequency: 1-10 per minute
- In-cycle priming that allows temporary "full rate" dispensing onto polishing surface
- One-touch priming function for quick, initial charging of new cloths
- One-touch activation independent of menu for simple operation
- Pre-start charging of new/dry polishing cloths
- Allows dispensing of colloidal suspensions (silica, silica/alumina and alumina) with rinse/flush function to avoid clogging
- Two (2) positions with high-speed pumps for oxide polishing
- 25 programmable menus
- Touchpad switches to control all functions
- Backlit 4-line LCD
- CE compliant for EU
- Two (2) year warranty
- Designed and manufactured by Allied in the USA 



MultiPrep™ 12" System with AD-5™ Fluid Dispenser

Item	Description
5-7100	AD-5™, 100-240 V
	Dims: 8" W x 25" D x 9" H (203 x 635 x 228 mm)
	Weight: 28 lb. (13 kg)

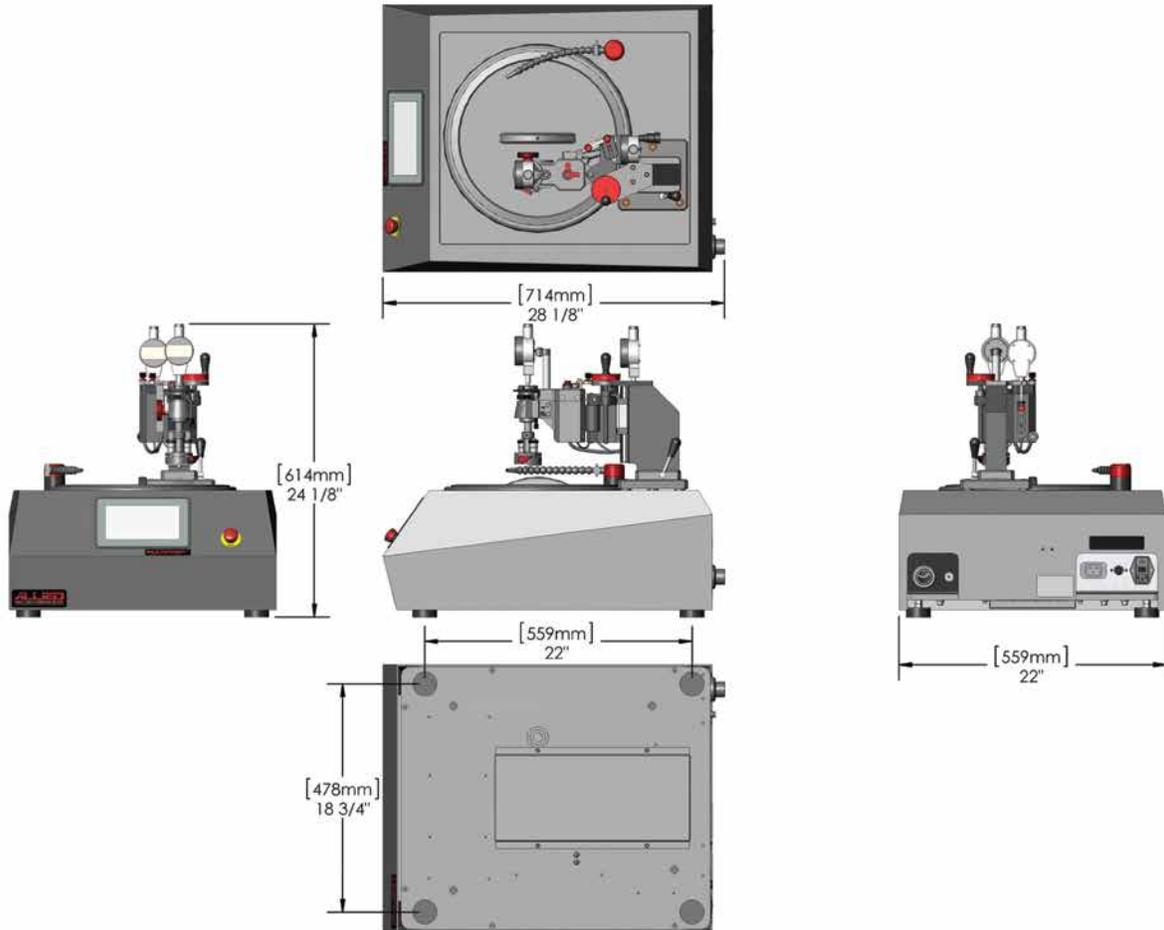


25 programmable menus



Convenient pivoting arm with nozzle design featuring stainless steel tips that are easily removed for cleaning

Dimensions



Grinder/Polisher Specifications

Platen RPM	5-350
Power (HP)	0.5
Power (W)	375
Display	7" Color LCD Touchscreen
Electronics	Microprocessor controlled
Operating Voltages	100-240 V
CE	EMC Directive: 2014/30/EU LVD Directive: 2014/35/EU MD Directive: 2006/42/EC
Weight	125 lb. (57 kg)
Warranty	2 years
Included Items	Splash Ring and Platen Cover, Fixture/Accessory Storage Case, MultiPrep™ Procedures CD, Operation Manual, Calibration Kit: Precision 12" (305 mm) Platen, Dial Indicator + Micrometer Alignment Fixture

Positioning Head Specifications

Sample RPM	8 speeds
Sample Oscillation	8 speeds
Sample Advancements	1 μm resolution
Angular Positioning	+10°/-2.5° range (0.02° increments)
Sample Load (g)	0-600

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Brochure #: MPS12-2022

Equipment is subject to change due to innovations/improvements at any time.



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